

IN THE CLAIMS

1-20. (canceled)

21. (currently amended) A method of treating substrates comprising:

rotating a substrate support in a chamber about an axis while supporting one or more substrates on said support so that one or more surfaces of the substrates to be treated lie substantially perpendicular to said axis; and

introducing a plurality of gas streams into said chamber in a direction substantially parallel to said axis, all of said gas streams flowing within said chamber toward said one or more surfaces with a substantially uniform the same velocity;

mixing a reactant gas with a carrier gas to form each of the plurality of streams, the gases being mixed such that the concentration of reactant gas in each stream is substantially proportional to a radial distance of the stream from said axis, whereby the gas streams flowing toward radially outward portions of said one or more surfaces have a higher concentration of said reactant gas than the gas streams flowing toward radially inward portions of said one or more surfaces.

22. (previously presented) A method as claimed in claim 21 wherein said introducing step includes discharging said gas streams into said chamber through a plurality of inlets disposed at different radial distances from said axis.

23. (previously presented) A method as claimed in claim 22 wherein said mixing step is performed so as to mix the carrier gas with the reactant gas prior to discharge from at least some of said inlets, and so that streams having different concentrations of said carrier gas will be discharged from different ones of said inlets.

24. (original) A method as claimed in claim 21 further comprising the step of maintaining reaction conditions in said chamber such that said reactant gas reacts at said substrate to grow a layer including a constituent derived from said reactant gas epitaxially on said one or more surfaces.

25. (original) A method as claimed in claim 24 wherein said reactant gas includes a metal alkyl.

26. (original) A method as claimed in claim 24 wherein said carrier gas includes nitrogen.

27. (canceled)

28. (previously presented) A method as claimed in claim 22 wherein said mixing step is performed so as to mix the carrier gas with the reactant gas just after discharge from at least some of said inlets, so that streams having different concentrations of said carrier gas will flow within said chamber toward said one or more surfaces.

29. (previously presented) A method as claimed in claim 28 wherein said chamber further comprises a porous injection plate disposed between said inlets and said substrate support, said porous injection plate having a downstream face facing said substrate support, and wherein said mixing step is performed so that streams having different concentrations of said carrier gas exit from said downstream face of said injection plate and flow toward said one or more surfaces.

30. (previously presented) A method as claimed in claim 21 wherein said reactant gas and said carrier gas are mixed such that different portions of said one or more surfaces at different radial distances from said axis receive substantially the same amount of said reactant gas per unit time per unit area.